



CODES 101

An Introduction to
Codes and Standards
for the HVACR Contractor



2800 Shirlington Road, Suite 300
Arlington, VA 22206
www.acca.org

Sponsored by the ACCA Codes Committee

For more information, contact:
Luis Romeo Escobar
ACCA, Manager of Codes & Standards
luis.escobar@acca.org
Phone: 703-824-8870

WHAT ARE CODES ...

Codes are minimum standards that aim to guide government agencies in meeting their obligations to protect the general welfare of the population they serve. The objectives of codes are to prevent damage to property, injury or loss of life by persons. This is accomplished by applying accumulated knowledge and best practices, to the avoidance, reduction, or elimination of potential dangers.

Codes generally apply to the built environment and, when adopted by pertinent authorities, become lawful requirements that mandate compliance. An authority may write its own code document or may adopt other code documents. Different states and/or municipalities are free to adopt different codes.

... AND STANDARDS?

Standards are generally considered by an authority or general consensus as a basis of comparison, an approved model. Standards are usually regarded as recommendations that do not have the force of law, unless the standard is adopted by an authority having jurisdiction. It is common for sections of a local code to refer to nationally recognized standards. In many instances, sections of a standard (or the entire standard) are adopted into the code by reference, and then become legally enforceable.

CODES AND THE HVAC INDUSTRY

As the intent of code developers is to: safeguard the consumer; ensure a minimum level of system performance; and reduce safety problems; hundreds of different national, state and local codes exist. Obviously, not all of the codes and standards that exist apply to HVAC contractors. Of the many codes and standards, a number are recognized to have more direct impact on the HVAC industry. These primarily include: **ENERGY** codes; **FUEL GAS** codes; **MECHANICAL** codes; **PLUMBING** codes; **RESIDENTIAL** codes; **BUILDING** codes; **ELECTRICAL** codes; **SOLAR** codes; **EQUIPMENT** and **DUCT SIZING** standards; **VENTILATION** standards; **IAQ** standards; and **DUCT CONSTRUCTION** standards.

PRIMARY BUILDING CODE BODIES

In the United States, there are three main organizations that are involved in the development of the model codes that affect the HVAC industry.

The **International Association of Plumbing and Mechanical Officials (IAPMO)** develops and maintains the Uniform Mechanical Code (UMC) and the Uniform Plumbing Code (UPC).

The **International Code Council (ICC)** develops and maintains the International Mechanical Code (IMC), International Residential Code (IRC), International Energy Conservation Code (IECC), International Fuel Gas Code (IFGC), and others.

The **National Fire Protection Association (NFPA)** develops and maintains the National Fuel Gas Code (NFGC), the National Electric Code (NEC), the NFPA 500, and others.

BENEFITS OF CODES & COMPLIANCE

LEVELS THE PLAYING FIELD

1

Code mandates are one of few elements that place contractors on the same page. Contractors are expected to meet the same minimum requirements per code; have the same permit fees; and have the same licensing regulations, including licensing fees, required insurance, contractor bonds and workman's compensations (where required).

PROVIDES QUALITY ASSURANCE

2

Contractors and their customers benefit from having and adhering to a minimum standard practice that is set by the codes. Verification and enforcement of the codes is impartial - each contractor's work is verified according to the same standard of quality.

SAVES MONEY

3

Having an understanding of the pertinent codes saves money. Sometimes, code requirements may allow/mandate the use of less working materials, may require a procedure that takes less time and/or is more efficient - all proving to be less costly.

BENEFITS OF CODES & COMPLIANCE

SETS KNOWN EXPECTATIONS

4

There are numerous benefits that accompany code compliance. Having estimators/designers know what is expected is of high value. For every job to be performed, there is a minimum standard for performance/safety; only listed appliances are used; design criteria are set; and the work is reviewed by an unbiased enforcement. Additionally, installers are assisted in their work, as 'how to' instructions and guidance are made available to them and they follow acceptable standard installation procedures.

IMPROVES IMAGE

5

Contractors who know and adhere to the pertinent codes will enjoy an improved level of professionalism in the HVAC industry. The professional installations performed by such contractors sets them apart in the field. A contractor can also use code knowledge as a marketing tool - assuring building owners and other clients that safety, performance and efficiency standards are adhered to.

CODES AND YOU

Most jurisdictions mandate codes at some level—either locally or statewide. In addition, many states require HVAC contractors to possess a license/permit that registers them as contractors in the state and allows them to practice in their field of expertise. Furthermore, plan reviews and job inspections are common practices and procedures in a number of jurisdictions. Code compliance is not always a simple process, but it is the law!

CODE CHANGES

There are two main reasons for code changes. Because of product liability issues, codes are changed as necessary to ensure the highest possible level of safety. Unfortunately, sometimes these needed changes are not identified until something unfortunately goes wrong.

When a new product or procedure is developed, changes may be made in an existing code or a new code may be written, that involves the optimum use of the product or procedure. In addition, an installation or other method may have been identified, that deviates from standard practice, thus warranting a change to the code.

GET INVOLVED

Get involved in the code development process! You are the link to the industry and the future. Join a code organization and/or code committee. Suggest changes. Testify for/against proposed changes. Codes form the root of the installation. You must be kept up to date to be successful and ACCA is your gateway to success!

CODE SCHEDULES

Schedules of code meetings and hearings are usually made available on the code websites, up to a year before the dates.

CODE ADOPTIONS

Different states will adopt different codes, and the codes that apply to any HVAC contractor will depend on the location of practice. The codes that states and jurisdictions adopt change over the years. It is important that you stay up to date on code requirements that impact your business.

FOR MORE INFORMATION

www.acca.org/standards/codes/

IAPMO:	www.iapmo.org (p) 909/472-4100
ICC:	www.iccsafe.org (p) 888/422-7233
NFPA:	www.nfpa.org (p) 617/770-3000